

Video Telemetric Control of Industrial Products

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Abstract. The principles of creation of a system of contactless measurement of the physical quantities and parameters characterizing impacts of external factors on industrial products are considered. Introduced are the concepts and definitions concerning remote contactless measurement of parameters. The article describes a variant of the system with a temperature measurement unit is suggested, the a contactless method of temperature measurement by means of video cameras based on pyrometric methods and the theory of thermal radiation taking into account the integrated coefficient of thermal radiation of a gray body. The temperature dependences of integrated coefficient of thermal radiation for some metals are given. After processing of the video information by the spectral method, the calculation of integrated value of temperature in the controlled zones under examination by a color range or brightness is carried out. Provided is the analysis of the existing algorithms of compression of a video information. Requirements to application and the principles of creation of system with the block of measurement of temperature in the wide range and also its distinctive features are formulated.

Keywords: video telemetry, thermo-video telemetry, telemetry, power loaded areas, temperature, external influencing factors, measurement, video image